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Examining the impact of hospital-based patient medicines helpline services. A systematic review with narrative synthesis.

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INTRODUCTION

- ~40% of patients who have been discharged from hospital may subsequently experience medicines-related problems [1].
- Patients often lack knowledge of their medicines following hospital discharge [2].
- Many patients report not receiving important medicines-related information [3].

As a result of such findings, in the UK, patient medicines helpline services (PMHS) are available from some NHS Trusts for patients who have received care.

However, to date, a review of the literature has not been conducted which brings together the available evidence as to the impact of PMHS.

AIM: to examine the evidence as to the impact of PMHS, using the RE-AIM framework [4]. RE-AIM comprises five dimensions that are considered important for evaluating the public health impact of interventions.

Elements of the RE-AIM Framework

METHODS

Eligibility criteria: Any type of study design, any type of participant, any type of hospital-based PMHS, any type of outcome that fit the RE-AIM framework.

Information sources: Literature databases (Medline, EMBASE, CINAHL, Scopus, Web of Science); forward and backward citation searches; grey literature (databases: Opengrey, ProQuest; Google and Google Scholar; targeted websites/conference proceedings; consultation with experts).

Search strategy: Designed by MW; checked by MJ and a subject librarian at UoB.

Study screening and selection: Titles/abstracts of literature search results were screened using Covidence. Full text reports were then attained and checked (all screening/selecting done by two researchers; disagreements resolved through discussion).

Quality assessment of included studies: The 20-item Axis tool was used to assess risk of bias and quality [5].

Narrative synthesis: Findings were synthesised in a narrative synthesis around the study objectives [6].

RESULTS

Study selection:

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graph TD
    A[7854 records identified  
(Medline, EMBASE, CINAHL, Scopus, Web of Science)] --> B[3367 duplicates removed]
    A --> C[4487 records screened]
    C --> D[4091 excluded]
    C --> E[396 full-text articles or  
conference abstracts sourced  
and assessed for eligibility]
    E --> F[342 excluded]
    E --> G[15 studies eligible]
    G --> H[27 studies identified  
through grey literature]
    G --> I[42 studies included in narrative synthesis]
    H --> I
```

Quality assessment: The mean percentage for overall quality for the assessed studies was 61%. This ranged from 41%-95%. For the *Risk of Bias* subscale, the mean percentage for risk of bias across the assessed studies was 52% (range = 17%-75%).

Reach: On average, PMHS answer five calls per week. From an NHS Trust in London, 14 (9%) patients had previously used the PMHS; 34% had heard of the service (*N* = 163) [7].

Effectiveness: PMHS are perceived as positive (e.g., satisfaction ratings are typically excellent). Patients report several positive outcomes of using PMHS (e.g., feeling reassured, and improved health). PMHS can address medicines-related errors, and their use can potentially prevent harm to patients (48% of calls pertain to issues that have the potential to cause harm). Across six studies, the percentages of service users reporting increased knowledge or understanding of their medicines ranged from 49% to 88% (mean = 71%).

Adoption: A 2017 study found that 52% of 227 Trusts in England provided a PMHS [8]. This percentage is similar to that found in a study published ten years earlier.

Implementation: Adherence to national standards for operating a PMHS could be improved, particularly regarding helpline promotion [8].

Maintenance: In 2017, on average PMHS in England had been running for 6 years (range = 1-24). Where a PMHS ceased operating, reasons of lack of resources and use were cited [8].

CONCLUSIONS

Studies show that PMHS may improve people's knowledge and use of their medicines

However, more up-to-date and high quality research is needed (high risk of bias found in studies)

Need to improve the adoption and implementation of PMHS (e.g. available from all Trusts)

Need to improve the patients' knowledge and use of PMHS

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